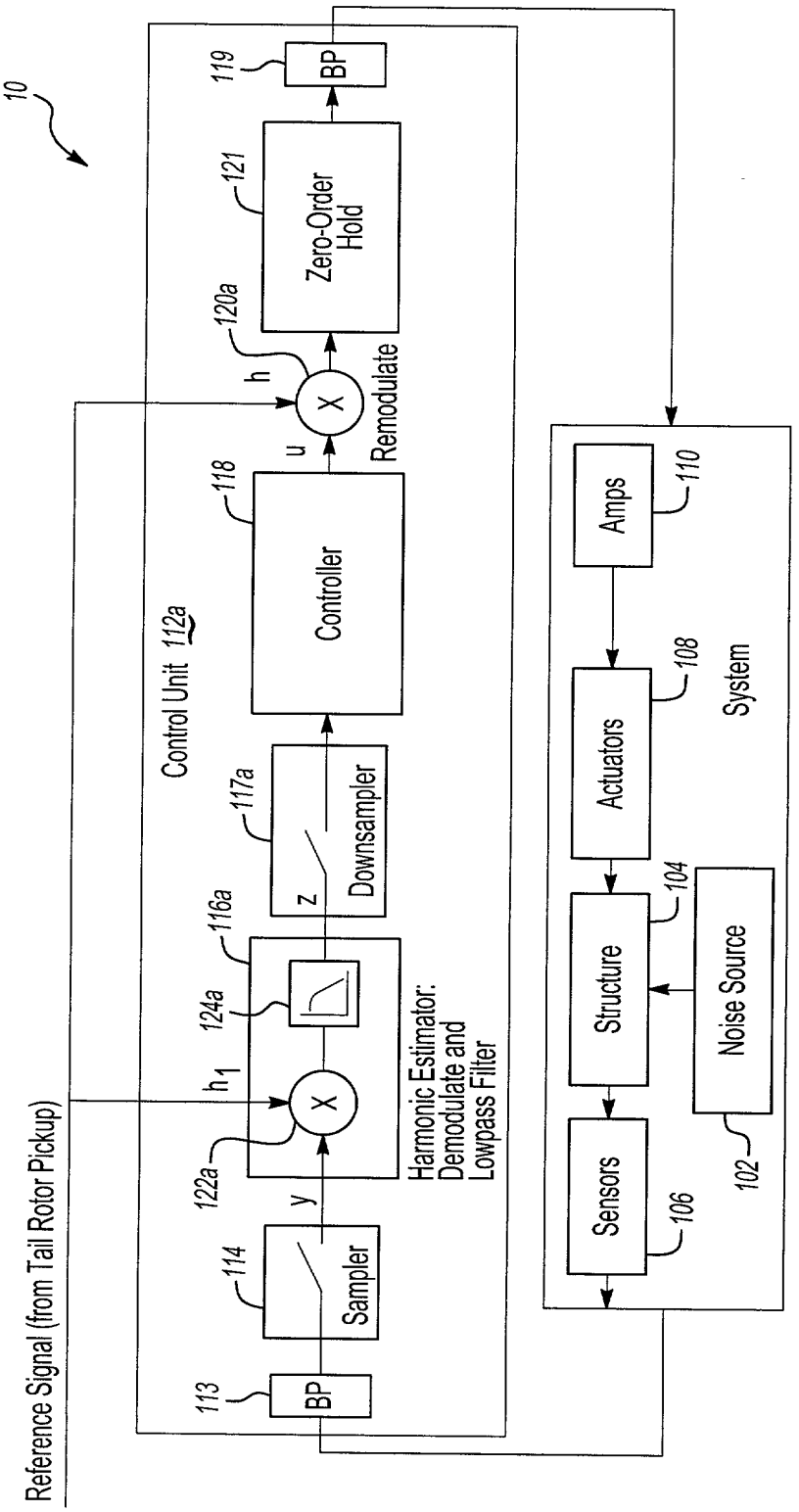
10
Reference Signal (from Tail Rotor Pickup)
Control Unit 112a
113
BP
114
Sampler
y
122a
h1
124a
116a
Harmonic Estimator: Demodulate and Lowpass Filter
z
117a
Downsampler
118
Controller
u
h
120a
X
Remodulate
121
Zero-Order Hold
119
BP
Amps
110
Actuators
108
System
Structure
104
Noise Source
Sensors
106
102

Fig-1

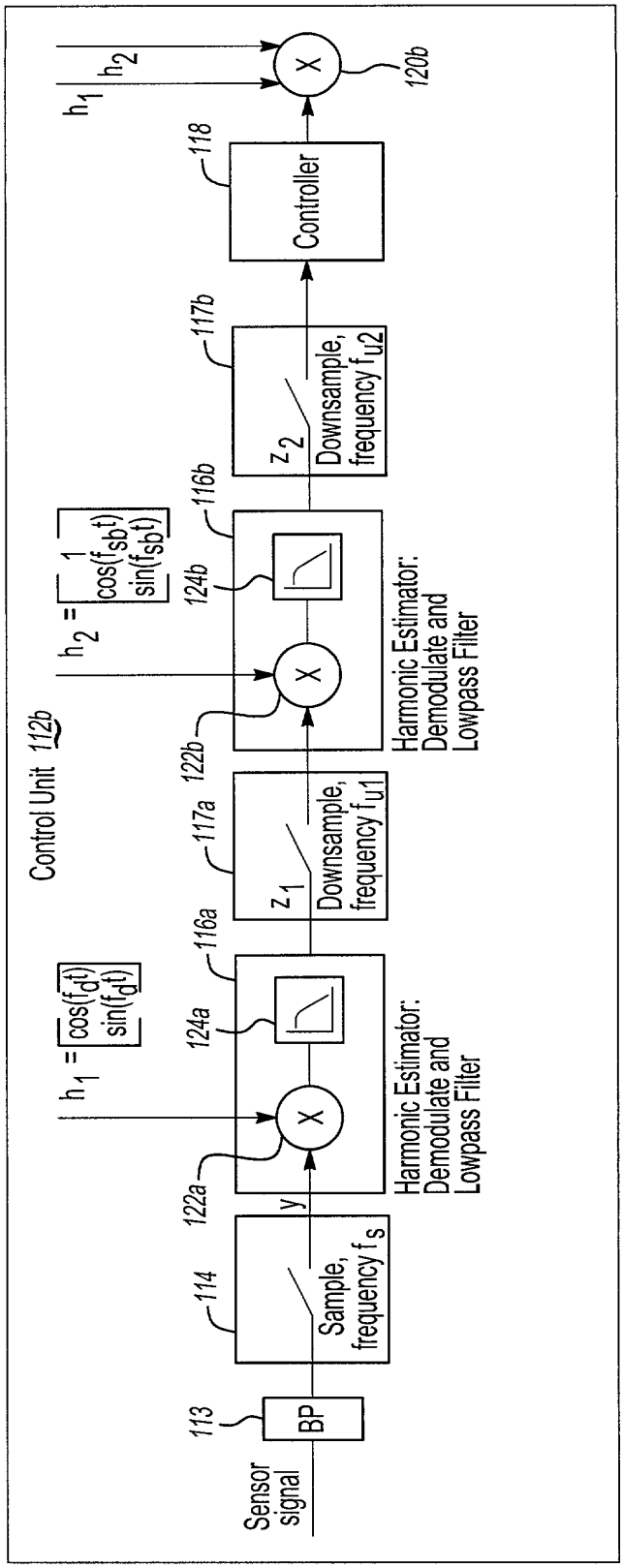
Control Unit 112b
Sensor signal
113
BP
114
Sample, frequency $f_s$
122a
y
$h_1 = \begin{bmatrix} \cos(f_d t) \\ \sin(f_d t) \end{bmatrix}$
124a
116a
Harmonic Estimator: Demodulate and Lowpass Filter
$z_1$
Downsample, frequency $f_{u1}$
117a
122b
$h_2 = \begin{bmatrix} 1 \\ \cos(f_{sb} t) \\ \sin(f_{sb} t) \end{bmatrix}$
124b
116b
Harmonic Estimator: Demodulate and Lowpass Filter
$z_2$
Downsample, frequency $f_{u2}$
117b
118
Controller
$h_1$ $h_2$
120b

*Fig-2*

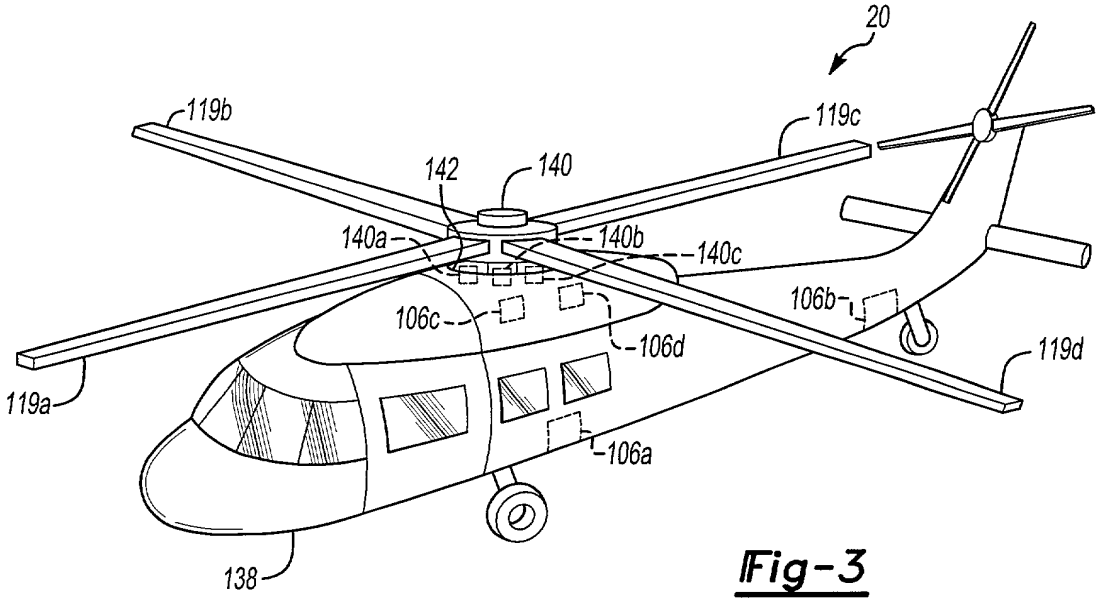
20
119b
119c
142
140
140a
140b
140c
106c
106b
106d
119d
119a
106a
138

Fig-3